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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,148	09/09/2003	Kunishige Miyoshi	117081	1891

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EXAMINER

FEELY, MICHAEL J

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/657,148

Applicant(s)

MIYOSHI, KUNISHIGE

Examiner

Michael J. Feely

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2003.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-4 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morton (US Pat. No. 6,716,482) in view of Edwards (Pub. No.: US 2003/0148085).

Regarding claims 1-4, Morton discloses: *(1 & 2)* a paste coating composition for reinforcing wood or wood joint (Abstract; column 2, line 35 through column 3, line 9; column 5, line 63 through column 6, line 16) comprising: (A) an epoxy resin containing a curing agent (column 2, lines 45-49); and *reinforcement fibers* (column 2, lines 57-61); *(3 & 4)* a wood structure, in which the paste coating composition for reinforcing wood or wood joint according to claim 1 is applied to a surface of the wood structure (Abstract; column 2, line 35 through column 3, line 9).

The teachings of Morton are deficient for the following reasons:

- He fails to explicitly disclose a combination of (B) ceramic fiber and (C) aramid or polyketone fiber;
- He fails to disclose the amounts of (B) and (C) being 1.5 to 5% by weight and 1 to 7% by weight based on the weight of component (A) respectively;
- He fails to disclose the composition viscosity of 10,000 cps to 35,000 cps; and
- He fails to disclose the dried coating thickness of 0.1 to 3 mm.

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With respect to the first deficiency, Morton discloses, “The (reinforcing) fibers can be in the form of a mat (woven or non-woven) or individual fibers, such as short chopped fibers or long intertwined fibers. The fibers themselves can be made of glass, carbon, *synthetic*, nylon, *or any material that adheres to the cured matrix* (epoxy) material;” (column 2, lines 57-61) however, they fail to explicitly disclose a combination of ceramic fiber and aramid or polyketone fiber.

Edwards discloses a composite thermoset rod used to reinforce wood (*see Abstract*). The thermoset resin includes epoxy (*see paragraph 0022*), and, “Examples of suitable reinforcing fibers include glass, carbon, *aramid fibers, ceramic*, and various metals *or combinations thereof*,” wherein the combination of fiber is used to specifically tailor and distribute the degree of reinforcement along the reinforced material, while potentially reducing cost (*see paragraph 0022*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a combination of ceramic fiber and aramid or polyketone fiber, as taught by Edwards, in the composition of Morton because Edwards discloses that aramid and ceramic fibers are recognized in the art as suitable reinforcing fibers for epoxy resins, and a combination of fibers is advantageous to specifically tailor and distribute the degree of reinforcement along the reinforced material, while potentially reducing cost.

With respect to the second deficiency, it should be noted that Applicant fails show critically for the claimed ranges of (B) and (C) being 1.5 to 5% by weight and 1 to 7% by weight based on the weight of component (A) respectively. Furthermore, the teachings of Edwards demonstrate that these amounts are results effective variables, wherein a combination of fibers is

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advantageous to specifically tailor and distribute the degree of reinforcement along the reinforced material, while potentially reducing cost.

In light of this, it has been found that, “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation,” – *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) and, “A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation,” – *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the claimed amounts of ceramic and aramid or polyketone fibers in the combined teachings of Morton and Edwards because the teachings of Edwards demonstrate that these amounts are results effective variables, wherein a combination of fibers is advantageous to specifically tailor and distribute the degree of reinforcement along the reinforced material, while potentially reducing cost.

With respect to the third deficiency, it should be noted that Applicant fails to show critically for the claimed viscosity range of 10,000 cps to 35,000 cps. One of ordinary skill in the art would have recognized that the addition of reinforcing fillers significantly increases the viscosity of an epoxy resin composition. Furthermore, one of ordinary skill in the art would have also recognized that viscosity is a result effective variable for coating compositions, wherein a low viscosity makes it difficult to achieve relatively thick coats, while a high viscosity limits the general handle-ability of the composition and the ability to provide a substantially uniform coat.

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Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the claimed viscosity range in the combined teachings of Morton and Edwards because coating viscosity would have been recognized in the art as a result effective variable, wherein a low viscosity makes it difficult to achieve relatively thick coats, while a high viscosity limits the general handle-ability of the composition and the ability to provide a substantially uniform coat.

With respect to the fourth deficiency, it should be noted that Applicant fails to show criticality for the claimed coating thickness range of 0.1-3 mm (3.9-118 mil). Furthermore, one of ordinary skill in the art would have recognized that the coating thickness is a result effective variable, wherein the coating has to be applied in a sufficient amount to have a reinforcing effect on the wood or wood joint material.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the claimed coating thickness in the combined teachings of Morton and Edwards because coating thickness would have been recognized in the art as a result effective variable, wherein the coating has to be applied in a sufficient amount to have a reinforcing effect on the wood or wood joint material.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1 and 2 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, and 4 of copending Application No. 10/634,882 (Pub. No.: US 2005/0032956). Although the conflicting claims are not identical, they are not patentably distinct from each other because: the combined limitations of claims 1 and 4 are fully encompassed by the broader scope of instant claim 1; the combined limitations of claims 1, 2, and 4 are fully encompassed by the broader scope of instant claim 2.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.


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Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael J. Feely
Primary Examiner
Art Unit 1712

December 9, 2005

**MICHAEL FEELY
PRIMARY EXAMINER**